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TEXAS INSTRUMENTS INCORPORATED P O BOX 655474, M/S 3999 DALLAS, TX 75265				
EXAMINER				
ARMSTRONG, ANGELA A				
ART UNIT		PAPER NUMBER		
2626				
NOTIFICATION DATE		DELIVERY MODE		
08/05/2009		ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

[uspto@ti.com](mailto:uspto@ti.com)

# Office Action Summary

**Application No.**

09/668,398

**Applicant(s)**

MCCREE, ALAN V.

**Examiner**

ANGELA A. ARMSTRONG

**Art Unit**

2626

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 19 May 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_
- 7) ☐ Paper No(s)/Mail Date: \_\_\_\_\_

### DETAILED ACTION

Applicant's arguments, see page 3, lines 8-16, filed May 19, 2005, with respect to claims 1-3 have been fully considered and are persuasive. The rejection under 35 USC 103 of claims 1-3 has been withdrawn.

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
2. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required:
  - In claim 2, the stipulation that *said sub-frame has a length equal to an integer multiple of an interval of said LP coefficients update* is neither found in the specification, nor can it be extrapolated to be based on the LPC samples since the *subframe* – with its attendant length – would preexist the LP coefficient update.
  - The Examiner is proceeding with the understanding that the sub-frame length is established independently as a consequence of LPC processing.
3. The abstract of the disclosure is objected to because the sentences are not complete. Correction is required. See MPEP § 608.01(b).

### ***Claim Objections***

4. Claim 2 is objected to because of the following informalities:
- In claim 2, "... *length of an interval of said LP coefficients update*" should read, "... *length of an interval of said updated LP coefficients update*" (2<sup>nd</sup> & 3<sup>rd</sup> lines).
- Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

#### **Serizawa**

6. Claim 4 was rejected under 35 U.S.C. 102(a) as being anticipated by Serizawa (U.S. Patent 6,101,464 A).
7. Regarding claim 4, the coding system for speech invention of Serizawa reads on the features of the claim as follows:
- Serizawa (column 2 lines 39-44) reads on the feature of *providing waveform excitation sub-frames*

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- Serizawa (column 1 lines 26-32) teaches the feature of *providing a plurality of sets of LP coefficients for each sub-frame* (column 11 lines 22-24).
- Serizawa (column 2 lines 38-60) teaches the feature of finding waveform excitations for subframes using sets of LP coefficients (column 8 lines 17-20).

***Claim Rejections - 35 USC § 103***

**Thyssen & Kim *et al* & Chen**

8. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Thyssen (U.S. Patent 6,480,822) in view of Kim *et al* (“On A Modified Cepstral Pitch Control Technique For The High Quality Text-To-Speech Type System”, Midwest Symposium on Circuits and Systems, pages 616-619, August 1998) and further in view of Chen (US Patent No. 5,327,520).

9. Regarding claim 1, the low complexity random codebook of Thyssen applies to the features as follows:

- Thyssen (column 6 lines 47-48) reads on the feature of *(a) a linear prediction* (column 9 line 27), *pitch* (column 10 line 1) and *voicing analyzer* (column 12 line 46).
- Thyssen (Abstract, line 9) acknowledges the use of *waveform coding* but expresses reservations without specifying those modifications that would overcome the stated deficiencies.

Kim *et al* (from the 5<sup>th</sup>-line from bottom of left column of page 616, to the 3<sup>rd</sup> line of the adjacent right column) reads on the feature of *(b) a waveform coder coupled to said analyzer*, which would have made it obvious to a person of ordinary skill in the art of speech signal processing at the time of the invention to apply the method/teachings of Kim *et al* to the device/method of Thyssen so as to provide toll-quality speech based on accepted coding methods.

- Thyssen does not teach, but Chen teaches *LP coefficients updated within a sub-frame for excitation synthesis (col. 20, lines 29-46)*. *It would have been obvious to one of ordinary skill at the time of the invention to modify the system of Thyssen to implement the teachings of Chen, for the purpose of improving the quality of the waveform coding and thereby provide enhanced speech data that is reconstructed at the decoder.*

**Thyssen, Kim et al & Nomura**

10. Claims 2-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Thyssen in view of Kim et al and Chen, and further in view of Nomura (Japan Patent 10-207496).

11. Regarding claims 2-3 as understood by the Examiner, the claim is set forth with the same limits as claim 1. Where Thyssen is silent on the matter of specific subframe lengths, Nomura (specifying in [0031] that the subframe length is set by multiplying integer  $i$  to  $N$ ) which would have made it obvious to a person of ordinary skill in the art of speech signal processing at the time of the invention to apply the method/teachings of Nomura to the device/method of Thyssen so as to provide the closest segment amount used as a basis represented by the parameters.

12. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Serizawa in view of Nomura (Japan Patent 10-207496).

13. Regarding claim 5 as understood by the Examiner, the claim is set forth with the same limits as claim 4. Where Serizawa is silent on the matter of specific subframe lengths, Nomura

(specifying in [0031] that the subframe length is set by multiplying integer  $i$  to  $N$ ) which would have made it obvious to a person of ordinary skill in the art of speech signal processing at the time of the invention to apply the method/teachings of Nomura to the device/method of Serizawa so as to provide the closest segment amount used as a basis represented by the parameters.

***Response to Arguments***

14. Applicant's arguments with respect to claims 1-3 have been considered but are moot in view of the new ground(s) of rejection.
15. Applicant's arguments with respect to claim 4 have been fully considered but they are not persuasive.
16. Applicant's arguments with respect to claim 4 fail to comply with 37 CFR 1.111(b) because they amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references.
17. Applicant's arguments with respect to claim 4 do not comply with 37 CFR 1.111(c) because they do not clearly point out the patentable novelty which he or she thinks the claims present in view of the state of the art disclosed by the references cited or the objections made. Further, they do not show how the amendments avoid such references or objections.



Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANGELA A. ARMSTRONG whose telephone number is (571)272-7598. The examiner can normally be reached on Monday-Thursday 11:30-8:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richemond Dorvil can be reached on 571-272-7602. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Angela A Armstrong/  
Primary Examiner  
Division 2626